VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

Please replace the paragraph beginning at page 13, line 12, with the following rewritten paragraph:

--In the video data compression apparatus 1, the host computer 20 controls the operation of the constituent parts of the video data compression apparatus 1. Further, the host computer 20 receives the amount of data of the compressed video data generated by preliminarily compressing and coding the noncompressed video data VIN by the encoder 162 of the simplified two pass processing unit 16, the value of the direct current component (DC component) of the video data after the DCT processing, and the power value of the alternating current component (AC component) via a control signal C16 and calculates the difficulty of the pattern of the compressed video data based on these received values. Further, the host computer 20 allocates the target amount of data Tj of the compressed video data generated by the encoder 18 via the control signal C18 for every picture based on the calculated difficulty, sets the same in the quantization circuit [166] 168 (Fig. 3) of the encoder 18, and adaptively controls the compression rate of the encoder 18 in units of pictures.--

Please replace the paragraph beginning at page 16, line 19, with the following rewritten paragraph:

--The inverse quantization circuit 172 performs inverse quantization on the quantized data input from the [variable length coding] quantization circuit 168 and outputs the same as the inverse quantized data to the inverse DCT circuit 174.--

Please replace the paragraph beginning at page 18, line 22, with the following rewritten paragraph:

--The encoder control unit 12 performs the preprocessing of rearrangement of pictures in the order of coding etc. with respect to the noncompressed video data VIN input to the video data compression apparatus 1 [by the encoder control unit 12], as shown in Fig. 4A, and outputs the same as the video data S12 to the FIFO memory 160 and the encoder 162 [as shown in Fig. 4A].--

Please replace the paragraph beginning at page 21, line 6, with the following rewritten paragraph:

$$\text{--}R'_{j+1} \ [\text{-}] \equiv R'_j - S_j + F_{j+L} \qquad\qquad (3)\text{--}$$

Please replace the paragraph beginning at page 21, line 7, with the following rewritten paragraph (additions are indicated in bold):

--Note that, the numerical value bit rate [(Bit rate)] **(Bit_rate)** in Equation [3] 2 indicates the amount of data (amount of bits) per second determined based on the transmission capacity of the communication line and the recording capacity of the recording medium, ["Picture rate"] **"Picture_rate"** indicates the number of pictures per second contained in the video data (30 pictures/sec (NTSC), 25 pictures/sec (PAL)), and the numerical value F_{j+L} **in Equation 3** indicates the average amount of data per picture determined in accordance with the picture type.--

In the claims:

Please amend claims 1-12, 15, 16, 21-28 and 30-32 by rewriting the same as follows:

--1. (Amended) A video data compression apparatus, comprising:

[an] indicator data calculating means for calculating indicator data indicating a complexity of video data for every picture from non-compressed video data;

[a] target value calculating means for calculating a target value of an amount of data after compression of said video data for every picture based on said calculated indicator data; and

[a] compressing means for compressing said non-compressed video data [so that the amount of data after compression becomes] in accordance with said calculated target value,

wherein said indicator data is calculated based on at least one coefficient between a global complexity and at least one of ME residual data, intra AC data, and flatness data.

2. (Amended) A video data compression apparatus according to claim 1, wherein:

said compressing means compresses said non-compressed video data to a picture type sequence containing a plurality of types of pictures (I picture, P picture, and B picture, or a combination of them) in a predetermined order[;],

said indicator data calculating means calculates [an] the ME residual [as] data for said indicator data of [the] pictures to be compressed to [the] one of a P picture and a B picture and calculates [a] at least one of the flatness data and [an] the intra AC data [or one of the same as] for said indicator data of a picture to be compressed to an I picture[;], and

said target value calculating means calculates difficulty data corresponding to the amount of data after compression based on said calculated indicator data and further calculates said target value based on the calculated difficulty data.

3. (Amended) A video data compression apparatus according to claim 1, wherein:

said indicator data calculating means calculates an activity [as said] for the indicator data [of the] for compressing said video data to an I picture [of said video data].

4. (Amended) A video data compression apparatus according to claim 1, further comprising:

[a] delaying means for delaying said video data for a predetermined time and [then] outputting [the] same; wherein

said target value calculating means calculates said target value with respect to an output picture output by said delaying means based on said indicator data calculated during a period where said delaying means delays said video data; and

said compressing means compresses pictures output by said delaying means [so that the amount of data after compression becomes] in accordance with said calculated target value.

5. (Amended) A data compression method, comprising the steps of:

calculating indicator data indicating a complexity of video data for every picture from non-compressed video data;

calculating a target value of an amount of data after compression of said video data for every picture based on said calculated indicator data; and

compressing said non-compressed video data by a predetermined compression method [so that the amount of data after compression becomes] in accordance with said calculated target value,

wherein said indicator data is calculated based on at least one coefficient between a global complexity and at least one of ME residual data, intra AC data, and flatness data.

6. (Amended) A video data compression method according to claim 5, wherein:

said compressing step compresses said non-compressed video data to a picture type sequence containing a plurality of types of pictures (I picture, P picture, and B picture, or a combination of the same) in a predetermined order[;],

said indicator data calculating step calculates [an] the ME residual [as] data for said indicator data of [the] pictures to be compressed to one of a P picture and a B picture and calculates [a] at least one of the flatness data and [an] the intra AC data [or one of the same as] for said indicator data of a picture to be compressed to an I picture[;],

said data amount target value calculating step further has a step for calculating difficulty data corresponding to the amount of data after compression based on said calculated indicator data[;], and

said target value is calculated based on the calculated difficulty data.

7. (Amended) A video data compression method according to claim 5, wherein:

said indicator data calculating step calculates an activity [as said] for the indicator data [of the] for compressing said video data to an I picture [of said video data].

8. (Amended) A video data compression method according to claim 5, [wherein: it] further [comprises] comprising [a] the step of delaying said video data by a predetermined time and [then] outputting [the] same[;], wherein

said data amount target value calculating step calculates said target value with respect to an output picture delayed and output based on said indicator data calculated during a period where said video data is delayed[;], and

said [compression] compressing step compresses the [delayed and] output picture [so that the amount of data after compression becomes] in accordance with said calculated target value.

9. (Amended) A video data compression apparatus, comprising:

[an] indicator data calculating means for calculating indicator data indicating a complexity of video data for every picture from non-compressed video data;

[a] difficulty data calculating means for performing [a] predetermined computation processing for multiplying a coefficient with said calculated indicator data to calculate difficulty data corresponding to [the] an amount of data after compression of said video data for every picture;

[a] target value calculating means for calculating a target value of the amount of data after compression of said video data for every picture based on said calculated difficulty data;

[a] compressing means for compressing each of the pictures of said non-compressed video data by a predetermined compression method [so that the amount of data after compression becomes] in accordance with said calculated target value so as to generate compressed video data; and

[a] coefficient updating means for updating said coefficient based on the amount of data of the generated compressed video data,

wherein said indicator data is calculated based on at least one of ME residual data, intra AC data, and flatness data of the picture, and

said coefficient is calculated based on a relationship between a global complexity and said at least one of ME residual data, intra AC data, and flatness data.

10. (Amended) A video data compression apparatus according to claim 9, wherein:

said compressing means compresses said non-compressed video data to a picture type sequence containing a plurality of types of pictures (I picture, P picture, and B picture, or a combination of the same) in a predetermined order; and

said indicator data calculating means calculates [an] the ME residual [as] data for said indicator data of pictures to be compressed to one of a P picture and a B picture and calculates [a] the flatness data, the intra AC data, and an activity or a combination of the same [as] for said indicator data of a picture to be compressed to an I picture.

11. (Amended) A video data compression apparatus according to claim 10, wherein:

said compressing means has

[a] quantizing means for quantizing said video data by a quantization value set from an external unit so as to generate said compressed video data and

[a] quantization value adjusting and setting means for successively adjusting said quantization value based on said calculated target value and setting the same in said quantizing means; and

said coefficient updating mans updates said coefficient based on an average value of said quantization values set in said quantizing means of said compressing means, an amount of data of said generated compressed video data, and said calculated indicator data.

12. (Amended) A video data compression apparatus according to claim 11, wherein

said coefficient updating means has:

[a] global complexity calculating means for calculating a global complexity based on the

average value of said quantization values set in said quantizing means of said compressing

means and the amount of data of said generated compressed video data and

[a] coefficient calculating means for calculating said coefficient based on said calculated

global complexity and said indicator data.

15. (Amended) A video data compression method, comprising the steps of:

calculating indicator data indicating a complexity of video data for every picture from

non-compressed video data;

performing predetermined computation processing for multiplying a coefficient with said

calculated indicator data to calculate difficulty data corresponding to [the] an amount of data

after compression of said video data for every picture;

calculating a target value of the amount of data after compression of said

[noncompressed] video data for every picture based on said calculated difficulty data;

compressing each of the pictures of said non-compressed video data by the compression

method [so that the amount of data after compression becomes] in accordance with said

calculated target value so as to generate compressed video data; and

updating said coefficient based on the amount of data of the generated compressed video

data,

wherein said indicator data is calculated based on at least one of ME residual data, intra

AC data, and flatness data of the picture, and

said coefficient is calculated based on a relationship between a global complexity and said at least one of ME residual data, intra AC data, and flatness data.

16. (Amended) A video data compression method according to claim 15, wherein:

said compressing step compresses said non-compressed video data to a picture type sequence containing a plurality of types of pictures (I picture, P picture, and B picture, or a combination of the same) in a predetermined order; and

said indicator data calculating step calculates [an] the ME residual [as] data for said indicator data of pictures to be compressed to a P picture and B picture and calculates [a] the flatness data, the intra AC data, and activity or a combination of the same [as] for said indicator data of a picture to be compressed to an I picture.

21. (Amended) A video data compression apparatus for compressing a continuous plurality of video data to compressed video data of a picture type sequence containing a plurality of types of pictures (I picture, P picture, and B picture) in a predetermined order, comprising:

[a] rearranging means for rearranging pictures of said [noncompressed] video data to an order adapted to [the] a compression method so that each head picture of said video data becomes one of an I picture [or] and a P picture;

[an] indicator data calculating means for calculating indicator data indicating a complexity of said rearranged [noncompressed] video data for every picture;

[a] border detecting means for detecting a scene change of a continuous plurality of said [noncompressed] video data;

[a] quantizing means for quantizing said video data by a quantization value set from an external unit so as to generate said compressed video data and

[a] quantization value adjusting and setting means for successively adjusting said quantization values based on said calculated target value and setting the same in said quantizing means; [and provision is further made of a] <u>said video data compression apparatus further comprising</u>

coefficient updating means for updating said coefficient based on the average value of said quantization values set in said quantizing means of said compressing means, the amount of data of said generated compressed video data, and said calculated indicator data.--

23. (Amended) A video data compression apparatus according to claim 21, wherein said target value calculating means has:

[a] predictive target amount calculating means for calculating said target value in accordance with the type of picture after compression by predicting that pictures contained in the predetermined compression unit are compressed as an order of said picture type sequence in advance before the change of said picture type sequence and

[a] target amount correcting means for correcting said target value of a picture of said video data of a type of picture which after compression is changed in accordance with the type of the picture after the change in only a case where a change of said picture type sequence actually exists.

24. (Amended) A video data compression apparatus according to claim 23, wherein:

said indicator data calculating means calculates [a] the flatness data, the intra AC data, and an activity [as] for the indicator data of a picture which becomes an I picture after compression and [an] the ME residual [as] for the indicator data of a picture which becomes one of a P picture [or] and a B picture after compression;

said changing means changes said picture type sequence so that [the] a picture of [the] a head of said video data is compressed to an I picture when the picture of the head of said video data would be compressed to a P picture; and

said target amount correcting means corrects said target value of a picture of a type of picture after compression which changes from a P picture to an I picture, which is calculated in advance, to said target amount of a picture in a case where it becomes an I picture after compression and corrects said target value of a picture of a type of the picture after compression which changes from an I picture to a P picture, which is calculated in advance, to said target amount of a picture in a case where it becomes a P picture after compression.

25. (Amended) A video data compression apparatus according to claim 22, wherein said coefficient updating means has

[a] global complexity calculating means for calculating [a] said global complexity based on an average value of said quantization values set in said quantizing means of said compressing means and the amount of data of said generated compressed video data and

[a] coefficient calculating means for calculating [a] said at least one coefficient based on said calculated global complexity and said [indicator data] at least one of ME residual data, intra AC data, and flatness data.

30. (Amended) A video data compression method according to claim 29, wherein:

said indicator data calculating step calculates [a] the flatness data, the intra AC data, and an activity [as] for the indicator data of a picture which becomes an I picture after compression and [an] the ME residual data [as] for the indicator data of a picture which becomes one of a P picture [or] and a B picture after compression;

changes said picture type sequence so that the picture of the head of said video data is compressed to an I picture where the picture of the head of said video data would be compressed to a P picture; and

corrects said target value of a picture of a type of picture after compression which is changed from a P picture to an I picture, which is calculated in the case where it becomes an I picture after compression and corrects said target value of a picture of a type of picture after compression which is changed from an I picture to a P picture, which is calculated in advance, to said target amount of a picture in the case where it becomes a P picture after compression.

31. (Amended) A video data compression method according to claim 28, wherein said coefficient updating step calculates [a] said global complexity based on the average value of said quantization values to be set and the amount of data of said generated compressed video data[and

calculates said coefficient based on said calculated global complexity and said indicator data].

32. (Amended) A video data compression method according to claim 31, wherein: